

AMENDMENTS TO THE CLAIMS

This listing of Claims shall replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-27. (Cancelled)

28. (New) A system comprising:

a plurality of memory resources;

a plurality of peripheral resources;

a plurality of processors;

a memory controller coupled to said plurality of processors and said plurality of memory resources, wherein said memory controller comprises a first resource controller for controlling access of said plurality of processors to said plurality of memory resources, and wherein said first resource controller is further operable to implement respective buses for coupling said plurality of processors to said plurality of memory resources; and

a peripheral controller coupled to said plurality of processors and said plurality of peripheral resources, wherein said peripheral controller comprises a second resource controller for controlling access of said plurality of processors to said plurality of peripheral resources, and wherein said first resource controller is further operable to implement respective buses for coupling said plurality of processors to said plurality of peripheral resources.

29. (New) The system of Claim 28 further comprising:

a timer component coupled to said memory controller and said peripheral controller, said timer component for controlling timing of said memory controller and said peripheral controller.

30. (New) The system of Claim 28, wherein said first resource controller is further operable to enable each of said plurality of processors to simultaneously access a different memory resource of said plurality of memory resources.

31. (New) The system of Claim 28, wherein said second resource controller is further operable to enable each of said plurality of processors to simultaneously access a different peripheral resource of said plurality of peripheral resources.

32. (New) The system of Claim 28, wherein said first and second resource controllers are further operable to enable said plurality of processors to perform apportioned operations in parallel.

33. (New) The system of Claim 28 further comprising:

a semaphore component coupled to said plurality of processors and for enabling said plurality of processors to negotiate for access to at least one shared resource, wherein said at least one shared resource is selected from a group consisting of: a memory resource of said plurality of memory resources; and a peripheral resource of said plurality of peripheral resources.

34. (New) The system of Claim 33, wherein said semaphore component is further operable to enable said plurality of processors to communicate with one another.

35. (New) The system of Claim 33, wherein said access to said at least one shared resource is determined based upon information selected from a group consisting of: a chronological ordering of requests for a shared resource, a round-robin access arbitration scheme; a predetermined priority assignment of a given processor to at least one given shared resource; and a predetermined priority assignment of a given processor to at least one given shared resource for a predetermined period of time.

36. (New) The system of Claim 28, wherein said plurality of memory resources, said plurality of peripheral resources, said plurality of processors, said memory controller, and said peripheral controller comprise components of a portable electronic device.

37. (New) A component for negotiating access to a plurality of shared resources, said component comprising:

a plurality of processors;

a memory controller coupled to said plurality of processors and said plurality of memory resources, wherein said memory controller comprises a first resource controller for controlling access of said plurality of processors to said plurality of memory resources, and wherein said first resource controller is further

operable to implement respective buses for coupling said plurality of processors to said plurality of memory resources; and

a peripheral controller coupled to said plurality of processors and said plurality of peripheral resources, wherein said peripheral controller comprises a second resource controller for controlling access of said plurality of processors to said plurality of peripheral resources, and wherein said first resource controller is further operable to implement respective buses for coupling said plurality of processors to said plurality of peripheral resources.

38. (New) The component of Claim 37 further comprising:

a timer component coupled to said memory controller and said peripheral controller, said timer component for controlling timing of said memory controller and said peripheral controller.

39. (New) The component of Claim 37, wherein said first resource controller is further operable to enable each of said plurality of processors to simultaneously access a different memory resource of said plurality of memory resources.

40. (New) The component of Claim 37, wherein said second resource controller is further operable to enable each of said plurality of processors to simultaneously access a different peripheral resource of said plurality of peripheral resources.

41. (New) The component of Claim 37, wherein said first and second resource controllers are further operable to enable said plurality of processors to perform apportioned operations in parallel.

42. (New) The component of Claim 37 further comprising:

a semaphore component coupled to said plurality of processors and for enabling said plurality of processors to negotiate for access to at least one shared resource, wherein said at least one shared resource is selected from a group consisting of: said a memory resource of said plurality of memory resources; and a peripheral resource of said plurality of peripheral resources.

43. (New) The component of Claim 42, wherein said semaphore component is further operable to enable said plurality of processors to communicate with one another.

44. (New) The component of Claim 42, wherein said access to said at least one shared resource is determined based upon information selected from a group consisting of: a chronological ordering of requests for a shared resource; a round-robin access arbitration scheme; a predetermined priority assignment of a given processor to at least one given shared resource; and a predetermined priority assignment of a given processor to at least one given shared resource for a predetermined period of time.

45. (New) The component of Claim 37, wherein said plurality of processors, said memory controller, and said peripheral controller comprise components of a portable electronic device.

46. (New) A controller for negotiating access to a plurality of shared resources, said controller comprising:

a plurality of shared resource controllers, wherein each of said plurality of shared resource controllers is operable to simultaneously communicate with a different shared resource of a plurality of shared resources;

a plurality of dedicated buses, wherein each of said plurality of dedicated buses is coupled to a respective shared resource controller of said plurality of shared resource controllers, and wherein each of said plurality of dedicated buses is further operable to couple to a respective shared resource of said plurality of shared resources; and

a resource arbitration controller for controlling access of a plurality of processors to said plurality of shared resources, wherein said resource arbitration controller is further operable to control at least one switching component for coupling a processor of said plurality of processors to at least one shared resource controller of said plurality of shared resource controllers, and wherein said resource arbitration controller is further operable to control said at least one switching component based upon a priority value assigned to said processor.

47. (New) The controller of Claim 46, wherein said priority value is assigned to said processor by a semaphore component coupled to said resource arbitration controller and said plurality of processors.

48. (New) The controller of Claim 46, wherein said plurality of shared resources are selected from a group consisting of: memory resources; and peripheral resources.

49. (New) The controller of Claim 46, wherein said resource arbitration controller is further operable to enable each of said plurality of processors to simultaneously access a different shared resource of said plurality of shared resources.

50. (New) The controller of Claim 46, wherein said resource arbitration controller is further operable to enable said plurality of processors to perform apportioned operations in parallel.

51. (New) The controller of Claim 46, wherein said plurality of shared resource controllers, said plurality of dedicated buses, and said resource arbitration controller comprise components of a portable electronic device.